What is claimed is:

1. A method for determining whether a transcript is present in a biological sample comprising:

providing a plurality of perfect match intensity values (PM_i) and mismatch intensity values (MM_i) for the transcript, wherein each of the PM_i is paired with one of the MM_i;

calculating a *p*-value using one-sided Wilcoxon's signed rank test, wherein the *p*-value is for a null hypothesis that θ=a threshold value and an alternative hypothesis that said θ> said threshold value, wherein said θ is a test statistic for intensity difference between said perfect match intensity values and mismatch intensity values; and

indicating whether said transcript is present based upon said *p*-value.

2. The method of Claim 1 wherein said testing statistic is $median(PM_i\text{-}MM_i)$.

3. The method of Claim 2 wherein said threshold value is zero.

4. The method of Claim 2 wherein said threshold value is calculated using: $\tau_1 = c_1\sqrt{median(PM_i)}$ wherein said c_1 is a constant.

5. The method of Claim 2 wherein threshold value is calculated using: $\tau_1 = c_1\sqrt{mean(PM_i)}$ wherein said c_1 is a constant.

6. The method of Claim 2 wherein said step of indicating comprises indicating said transcript is present if said *p* is smaller than a first significance level (α_1).

7. The method of Claim 6 wherein said significance level is 0.01-0.08.

8. The method of Claim 7 wherein said first significance level is 0.04.

9. The method of Claim 7 wherein said step of indicating further comprises indicating said transcript is absent if said *p* is greater than or equal to a second significance level (α_2).

10. The method of Claim 9 wherein said second significance level is 0.04-0.08.

11. The method of Claim 10 wherein said second significance level is 0.06.

12. The method of Claim 11 wherein said first significance level (α_1) is smaller than said (α_2) and said step of indicating further comprises indicating said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

13. The method of Claim 12 where first significance level is 0.04 and second significance level is 0.06.

14. The method of Claim 1 wherein said testing statistic is *median*$((PM_i - MM_i)/(PM_+MM_i))$.

15. The method of Claim 14 wherein said threshold value is a constant.

16. The method of Claim 15 wherein said threshold value is around 0.001 to 0.05.

17. The method of Claim 16 wherein said threshold value is around 0.015.

18. The method of Claim 17 wherein said step of indicating comprises indicating said transcript is present if said p is smaller than a first significance level (α_1).

19. The method of Claim 18 wherein said significance level is 0.01-0.08.

20. The method of Claim 19 wherein said first significance level is 0.04.

21. The method of Claim 20 wherein said step of indicating further comprises indicating said transcript is absent if said p is greater than a second significance level (α_2).

22. The method of Claim 21 wherein said second significance level is 0.04-0.08.

23. The method of Claim 22 wherein said second significance level is 0.06.

24. The method of Claim 22 wherein said first significance level (α_1) is smaller than said (α_2) and said step of indicating further comprises indicating said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

25. The method of Claim 24 where first significance level is 0.04 and second significance level is 0.06.

26. A method for determining whether a transcript is present in a biological sample comprising:

providing a plurality of perfect match intensity values (PM_i) and background intensity values (B_i) for said transcript, wherein each of said PM_i is paired with one of said B_i;

calculating a p value using one sided Wilcoxon's signed rank test, wherein said p value is for a null hypothesis that θ=a threshold value and an alternative hypothesis that said θ> said threshold value, wherein said θ is a test statistic for intensity difference between said perfect match intensity values and background intensity values; and

indicating whether said transcript is present based upon said p value.

27. The method of Claim 26 wherein said testing statistic is $median(PM_i\text{-}B_i)$.

28. The method of Claim 27 wherein said threshold value is zero.

29. The method of Claim 27 wherein said threshold value is calculated using: $\tau_1 = c_1\sqrt{median(PM_t)}$ wherein said c_1 is a constant.

30. The method of Claim 27 wherein threshold value is calculated using: $\tau_3 = c_3\sqrt{mean(PM_t)}$ wherein said c_3 is a constant.

31. The method of Claim 27 wherein said step of indicating comprises indicating said transcript is present if said p is smaller than a first significance level (α_1).

32. The method of Claim 31 wherein said significance level is 0.01-0.08.

33. The method of Claim 32 wherein said first significance level is 0.04.

34. The method of Claim 31 wherein said step of indicating further comprises indicating said transcript is absent if said p is greater than a second significance level (α_2).

35. The method of Claim 34 wherein said second significance level is 0.04-0.08.

36. The method of Claim 35 wherein said second significance level is 0.06.

37. The method of Claim 35 wherein said first significance level (α_1) is smaller than said (α_2) and said step of indicating further comprises indicating said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

38. The method of Claim 37 where first significance level is 0.04 and second significance level is 0.06.

39. A computer software product comprising:

computer program code for inputting a plurality of perfect match intensity values (PM_i) and mismatch intensity values (MM_i) for a transcript, wherein each of said PM_i is paired with one of said MM_i;

computer program code for calculating a p value using one sided Wilcoxon's signed rank test, wherein said p value is for a null hypothesis that θ=a threshold value and an alternative hypothesis that said θ> said threshold value, wherein said θ is a test statistic for intensity difference between said perfect match intensity values and mismatch intensity values;

computer program code for indicating whether said transcript is present based upon said p value; and

a computer readable media for storing said computer program codes.

40. The computer software product of Claim 39 wherein said testing statistic is *median*(PM_i-MM_i).

41. The computer software product of Claim 40 wherein said threshold value is zero.

42. The computer software product of Claim 40 wherein said threshold value is calculated using: $\tau_1 = c_1\sqrt{median(PM_i)}$ wherein said c_1 is a constant.

43. The computer software product of Claim 42 wherein threshold value is calculated using: $\tau_1 = c_1\sqrt{mean(PM_i)}$ wherein said c_1 is a constant.

44. The computer software product of Claim 40 wherein said computer program code of indicating comprises computer program code for indicating that said transcript is present if said p is smaller than a first significance level (α_1).

45. The computer software product of Claim 44 wherein said significance level is 0.01-0.08.

46. The computer software product of Claim 45 wherein said first significance level is 0.04.

47. The computer software product of Claim 46 wherein said computer code for indicating further comprises computer program code for indicating that said transcript is absent if said p is greater than or equal to a second significance level (α_2).

48. The computer software product of Claim 47 wherein said second significance level is 0.04-0.08.

49. The computer software product of Claim 48 wherein said second significance level is 0.06.

50. The computer software product of Claim 49 wherein said first significance level (α_1) is smaller than said (α_2) and said computer program code of indicating further comprises computer program code for indicating that said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

51. The computer software product of Claim 50 where first significance level is 0.04 and second significance level is 0.06.

52. The computer software product of Claim 40 wherein said testing statistic is *median*$((PM_i\text{-}MM_i)/(PM_i\text{-}MM_i))$.

53. The computer software product of Claim 52 wherein said threshold value is a constant.

54. The computer software product of Claim 53 wherein said threshold value is around 0.001 to 0.05.

55. The computer software product of Claim 54 wherein said threshold value is around 0.015.

56. The computer software product of Claim 53 wherein said computer program code for indicating comprises computer program code for indicating that said transcript is present if said p is smaller than a first significance level (α_1).

57. The computer software product of Claim 56 wherein said significance level is 0.01-0.08.

58. The computer software product of Claim 57 wherein said first significance level is 0.04.

59. The computer software product of Claim 57 wherein said computer program code for indicating further comprises computer program code for indicating said transcript is absent if said p is greater than or equal to a second significance level (α_2).

60. The computer software product of Claim 59 wherein said second significance level is 0.04-0.08.

61. The computer software product of Claim 60 wherein said second significance level is 0.06.

62. The computer software product of Claim 60 wherein said first significance level (α_1) is smaller than said (α_2) and said computer program code for indicating further comprises computer code for indicating that said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

63. The computer software product of Claim 62 where first significance level is 0.04 and second significance level is 0.06.

64. A computer software product comprising:

computer program code for providing a plurality of perfect match intensity values (PM_i) and background intensity values (B_i) for a transcript, wherein each of said PM_i is paired with one of said B_i;

computer program code for calculating a p value using one sided Wilcoxon's signed rank test, wherein said p-value is for a null hypothesis that θ=a threshold value and an alternative hypothesis that said θ> said threshold value,

wherein said θ is a test statistic for intensity difference between said perfect match intensity values and background intensity values; and

computer program code for indicating whether said transcript is present based upon said p-value; and

a computer readable media for storing said codes.

65. The computer software product of Claim 64 wherein said testing statistic is $median(PM_i\text{-}B_i)$.

66. The computer software product of Claim 65 wherein said threshold value is zero.

67. The computer software product of Claim 66 wherein said threshold value is calculated using: $\tau_1 = c_1\sqrt{median(PM_i)}$ wherein said c_1 is a constant.

68. The computer software product of Claim 66 wherein threshold value is calculated using: $\tau_3 = c_3\sqrt{mean(PM_i)}$ wherein said c_3 is a constant.

69. The computer software product of Claim 66 wherein said step of indicating comprises indicating said transcript is present if said p is smaller than a first significance level (α_1).

70. The computer software product of Claim 69 wherein said significance level is 0.01-0.08.

71. The computer software product of Claim 70 wherein said first significance level is 0.04.

72. The computer software product of Claim 71 wherein said computer software code of indicating further comprises computer software code for indicating that said transcript is absent if said p is greater than or equal to a second significance level (α_2).

73. The computer software product of Claim 72 wherein said second significance level is 0.04-0.08.

74. The computer software product of Claim 73 wherein said second significance level is 0.06.

75. The computer software product of Claim 73 wherein said first significance level (α_1) is smaller than said (α_2) and said code for indicating further comprises code for indicating that said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

76. The computer software product of Claim 75 where first significance level is 0.04 and second significance level is 0.06.

77. A system for determining whether a transcript is present in a biological sample comprising:

a processor; and

a memory being coupled to the processor, the memory storing a plurality of machine instructions that cause the processor to perform a plurality of logical steps when implemented by the processor, said logical step comprising:

providing a plurality of perfect match intensity values (PM_i) and mismatch intensity values (MM_i) for the transcript, wherein each of the PM_i is paired with one of the MM_i;

calculating a *p*-value using one-sided Wilcoxon's signed rank test, wherein the *p*-value is for a null hypothesis that θ=a threshold value and an alternative hypothesis that said θ> said threshold value, wherein said θ is a test statistic for intensity difference between said perfect match intensity values and mismatch intensity values; and

indicating whether said transcript is present based upon said *p*-value.

78. The system of Claim 77 wherein said testing statistic is $median(PM_i\text{-}MM_i)$

79. The system of Claim 78 wherein said threshold value is zero.

80. The system of Claim 78 wherein said threshold value is calculated using: $\tau_1 = c_1\sqrt{median(PM_i)}$ wherein said c_1 is a constant.

81. The system of Claim 78 wherein threshold value is calculated using: $\tau_1 = c_1\sqrt{mean(PM_t)}$ wherein said c_1 is a constant.

82. The system of Claim 78 wherein said step of indicating comprises indicating said transcript is present if said p is smaller than a first significance level (α_1).

83. The system of Claim 82 wherein said significance level is 0.01-0.08.

84. The system of Claim 83 wherein said first significance level is 0.04.

85. The system of Claim 83 wherein said step of indicating further comprises indicating said transcript is absent if said p is greater than or equal to a second significance level (α_2).

86. The system of Claim 85 wherein said second significance level is 0.04-0.08.

87. The system of Claim 86 wherein said second significance level is 0.06.

88. The system of Claim 87 wherein said first significance level (α_1) is smaller than said (α_2) and said step of indicating further comprises indicating said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

89. The system of Claim 88 where first significance level is 0.04 and second significance level is 0.06.

90. The system of Claim 76 wherein said testing statistic is *median*$((PM_i - MM_i)/(PM_+MM_i))$.

91. The system of Claim 77 wherein said threshold value is a constant.

92. The system of Claim 91 wherein said threshold value is around 0.001 to 0.05.

93. The system of Claim 92 wherein said threshold value is around 0.015.

94. The system of Claim 91 wherein said step of indicating comprises indicating said transcript is present if said p is smaller than a first significance level (α_1).

95. The system of Claim 94 wherein said significance level is 0.01-0.08.

96. The system of Claim 95 wherein said first significance level is 0.04.

97. The system of Claim 96 wherein said step of indicating further comprises indicating said transcript is absent if said p is greater than a second significance level (α_2).

98. The system of Claim 97 wherein said second significance level is 0.04-0.08.

99. The system of Claim 98 wherein said second significance level is 0.06.

100. The system of Claim 98 wherein said first significance level (α_1) is smaller than said (α_2) and said step of indicating further comprises indicating said transcript is marginally detected if $\alpha_1 \leq p < \alpha_2$.

101. The system of Claim 100 where first significance level is 0.04 and second significance level is 0.06.

102. A system for determining whether a transcript is present in a biological sample comprising:

A processor; and

A memory being coupled to the processor, the memory storing a plurality machine instructions that cause the processor to perform a plurality of logical steps when implemented by the processor; said logical step comprising:

providing a plurality of perfect match intensity values (PM_i) and background intensity values (B_i) for said transcript, wherein each of said PM_i is paired with one of said B_i;

calculating a p value using one sided Wilcoxon's signed rank test, wherein said p value is for a null hypothesis that θ=a threshold value and an alternative hypothesis that said θ> said threshold value, wherein said θ is a test statistic for intensity difference between said perfect match intensity values and background intensity values; and

indicating whether said transcript is present based upon said p value.